"A Good Engineer"

"A good Engineer must be of inflexible integrity, sober, truthful, accurate, resolute, discreet, of cool and sound judgement, must have command of his temper, must have courage to resist and repel attempts at intimidation, a firmness that is proof against solicitation, flattery or improper bias of any kind, must take an interest in his work, must be energetic, quick to decide, prompt to act, must be fair and impartial as a judge on the bench, must have experience in his work and in dealing with men, which implies some maturity of years, must have business habits and knowledge of accounts. Men who combine these qualities are not picked up every day. Still they can be found. But they are greatly in demand, and when found, they are worth their price: rather they are beyond price, and their value can not be estimated in dollars.' - Chief Engineer Starling's Report to the Mississippi Levee Commissioners.

Falsification of Records

Throughout the Manual of Instructions and Road and Bridge Specifications, reference is made to the performance of various laboratory and field tests and to the reporting and documenting of these tests. It is most essential that *only* accurate and factual data be reported for these tests. If tests or inspections are not made, then it is absolutely forbidden to record data that would indicate otherwise.

All personnel are to be impressed with the seriousness of falsifying any project record. Neither laxness nor negligence on the part of personnel can be condoned. It is recommended that the District and Division Administrators, who are in any way associated with project records, receive from each of their employees, who will conduct tests or make entries in project records, a signed statement that the employee has read and understood Title 18, United States Code Section 1020, and that the employee will comply with the conditions therein.

Chapter I - GENERAL INSTRUCTIONS

SECTION 101 PURPOSE AND SCOPE OF MANUAL

The Materials Division of the Department of Transportation operates under the supervision of the State Materials Engineer, and in accordance with instructions from the Chief Engineer.

The Manual of Instructions for the Materials Division outlines specifically the practices for field sampling, inspection, testing, and control of materials incorporated in the construction or maintenance of highways, structures, bridges, and incidentals. These instructions are to be followed in order to achieve uniformity in the control and use of materials throughout the State.

The Book of Specifications and other contract documents (Supplemental Specifications, Special Provisions, Copied Notes, etc.), the Manual for the Materials Division, the Manual for the Construction Division, and the Manual for the Maintenance Division, are expected to cover the range of written instructions. There are to be no changes made in procedure as given in the Manual unless special written instructions are issued by the State Materials Engineer. Occasionally, more detailed supplemental instructions or procedures will be issued separately by the Materials Division that will only be covered generally in the Manual of Instructions, but will be considered as a part of the Manual so far as official procedure is concerned. Some examples of these are the Virginia Test Methods Manual, the Nuclear Moisture-Density Testing Procedure Manual, Guide for Statistical Quality Control, etc.

SECTION 102 MISSION AND GOALS OF MATERIALS DIVISION

The mission of the Materials Division is to assist the Department in building and maintaining a safe and efficient transportation system through the application of current materials engineering and testing procedures.

The goals of the Materials Division are to:

(1) Provide preliminary engineering assistance to design units.

(2) Establish the appropriate quality level for materials to be used in construction and maintenance.

(3) Assure, through tests and observations, that materials proposed for use by Contractors and Suppliers conform to contract and purchase order requirements.

(4) Provide technical assistance to Field and Central Office operational Divisions in matters relating to the proper handling, use, and documentation of materials.

All materials purchased by the Department and all materials purchased by Contractors for use in construction and maintenance work must be approved by the Materials Division, or its authorized representative, before they may be used. On all projects involving Federal funds, the Materials Division must certify the quality and quantity of each type of material to the Federal Highway Administration before the final voucher is approved for payment. To this end, inspection is performed at nearly all asphalt terminals, aggregate quarries, etc., both within and without the State. In some cases, such as at steel and cement mills, materials inspection may consist of a program of Manufacturer's certification, coupled with periodic inspections of plant quality control procedures by Materials Division personnel. Special inspection can be promptly arranged in

unusual circumstances where it is advantageous to the Department and to the progress of the work.

SECTION 103 INPUT CONCERNING MATERIALS DIVISION POLICY AND INSTRUCTIONS

Criticisms or suggestions for improvement in Materials Division Policies and Instructions are invited. These should be made preferably in writing directly to the State Materials Engineer, or directed to the State Materials Engineer through the District Materials Engineer.

SECTION 104 RELATION OF MATERIALS DIVISION EMPLOYEES

Sec. 104.01 With Suppliers and Contractors

Relations of Materials Division employees with Suppliers of highway materials should be agreeably maintained at all times. Friendliness should prevail, but familiarity should be discouraged. The problems of the Supplier should be recognized. Advice can be offered that will assist in the production of acceptable materials, but the final choice or course of action is to be left to the Supplier.

Particular care should be taken not to issue any instructions to the Supplier, Contractor, his Superintendent or Foreman which can be construed as assuming superintendence of his work. Judgment should be cool, fair, and impartial, and arguments avoided. Knowledge of the work and material should be so thorough as to command respect. When differences of opinion arise, they should be referred to the District Materials Engineer or to the State Materials Engineer.

Instructions or orders for changes are to be given only to the Supplier, Contractor, his Superintendent, or his authorized representatives.

Employees should not place themselves under obligation to the Supplier or Contractor in any manner, as their judgment may be affected thereby, and their value to the Department seriously impaired.

Sec. 104.02 With the Public

Relations of Materials Division employees with the public are to be courteous and businesslike. Discussions of the policies of the Department of Transportation should be avoided. Employees of the Department of Transportation represent the State of Virginia in all their actions and duties. The motoring public expects our work to be accomplished in such a manner as to afford the greatest benefit and least inconvenience to their travel.

SECTION 105 SAFETY PRECAUTIONS

Personnel of the Materials Division are to follow rules of safety. A copy of the safety rules of the Department is given to each employee. The safety rules must be read, understood, and implemented at every level in the organization for those employees that are exposed to radioactive sources, it is critical that they follow all safety rules to comply with the terms and condition set forth by the United States Nuclear Regulatory Commission.

Sec. 105.01 Department Employees Visiting Plants

When employees visit plants to perform source inspection or monitor Quality Assurance operations, they are to comply with the safety rules applicable to that plant.

Sec. 105.02 Nuclear Safety Precautions

It is the intent of the Department as a Radioactive Materials Licensee to develop, document, and implement a Radiation Protection Program to commensurate licensed activities of the Department and to ensure compliance with all the provisions of the Code of Federal Regulations (CFR). The procedures and principles to achieve occupational exposure to employees and the general public will be monitored to assure exposure levels to be maintained as low as reasonably achievable (ALARA). Employees will be monitored using a personal dosimetry device (badge). Gauges will be monitored using leak wipe testing and survey meters.

In order to minimize the radiation exposure to employees and the general public while storing, operating and/or transporting the gauges, the Department follows the guidelines of the United States Nuclear Regulatory Commission (USNRC) and United States Department of Transportation (USDOT) stringently.

All job advertisements for such positions where employees will be operating or working in the vicinity of the nuclear gauges will contain a statement in the position description stating "May be required to operate or work in the vicinity of devices containing radioactive materials and emitting low levels of ionizing radiation." The Human Resources Division coordinates this. All interviewees and new employees in these positions will be given a Radiation Information Packet to review. The packet containing the information concerning the health risks from occupational exposure while in the vicinity of / or working with radioactive materials will be explained during the interview process. Once explained and understood by the new employee, a form (HPS 901F) will be signed certifying they have received and understand the information pertaining to the possible health risks relating to occupational exposure from radioactive materials. This form will be maintained in the employee's personnel file.

The procedures stated in the Virginia Department of Transportation's Guide-Exposure of Females to Radiation should be adhered to as outlined. Therefore, the Department places no special limitations restricting women of childbearing age that could result in job discrimination. The Department takes the position that special protection of the embryo/fetus should be voluntary and should be based on the joint decisions made by the declared pregnant woman and the employer who are well informed about the possible health risks involved. Employee and employer should work together to decide the best method for accomplishing this goal once the pregnancy has been declared. Once the pregnancy has been declared a document (Declaration of Pregnancy) will be signed certifying that the employee has received and understands the health risks of being exposed to radiation. The signed document shall be maintained in the employee's personnel file with a copy forwarded to the Central Office Materials Division, Attention: VDOT Radiation Safety Officer.

Employees will only be allowed to store, operate and/or transport, a nuclear gauge, containing radioactive materials, once they have received the proper training required by the USNRC, the Department and has been issued a badge to monitor the occupational exposure emitted from the gauge. The Materials Division or an accredited representative will conduct this training. Successful completion of the safety course will be acknowledged by the Department by issuing a certificate card that is valid for 3 years and personal dosimetry to monitor occupational exposure. Once hired the employee will be required to sign a statement indicating that the employee will follow proper procedures set forth by Department policy, and that if not followed, they may be

subject to disciplinary action under the Standards of Conduct Act. The Department does not allow an employee less than 18 years of age, regardless of sex, to store, operate and/or transport a nuclear gauge.

All employees assigned to any position requiring them to store, operate and/or transport the Department's nuclear gauges will be expected to perform their job duty requirements. If a valid medical reason is diagnosed by a physician that would prevent accomplishment of their job duties involving nuclear gauges, such information should be submitted to the Department and upon review, it may be deemed acceptable to modify the job duties of that individual.

The requirements for operation, storage and/or transportation for portable gauges are found in CFR10 and CFR49. The storage facility requirements are located in the Road and Bridge Standards, section 605.01.

Sec. 105.03 Nuclear Moisture-Density Gauges – General Adminiatration

The Department's portable nuclear gauges are regulated and inventoried by the Central Office Materials Division Radiation Safety Officer (ELKO RSO) only. At no time shall the gauges be placed on any of the districts major equipment inventory lists. Gauges are assigned to districts as requested by the District Radiation Safety Officer, (RSO). The District RSO signs a Nuclear Gauge Receipt of Transfer (TL-122) and assumes responsibility for the safe keeping of the gauge. Thereafter, that gauge(s) is assigned to a project(s) after an on-site inspection has been conducted to assure that the storage/ office areas meet the standards of the USNRC and the Department. Once the inspection is completed, the responsible representative for the project signs the TL-122 and assumes the responsibility for the gauge. The District RSO faxes a copy of the TL-122 to the ELKO RSO. When the gauge is no longer needed on the project, the District RSO receives the gauge from the project, signs the TL-122, and assumes responsibility for the gauge. The District RSO faxes a copy of the TL-122 to the ELKO RSO. When calibration, repair, or replacement of the gauge is required, the District RSO transports the gauge to the ELKO RSO, who signs a TL-122 and assumes responsibility for the gauge. For each TL-122 received or issued, the ELKO RSO updates the Nuclear Gauge Master List.

To ensure compliance with the USNRC and the Department's Radioactive Materials License, (NRC FORM 374), every 6 months a physical inventory of all gauges is performed. These inspections include such tasks as leak-wipe tests, review of gauge storage facilities, badge storage facilities, transport logs,(when applicable) handling techniques, and the use of the gauge. Leak-wipe tests assure that the source(radioactive materials) remains sealed in the gauge and do not have any loose contamination possibilities. Any source which is found to be leaking over .005 microcuries of removable material must be immediately taken out of service for repair or disposal. The results of the inspections are recorded on TL-61, Evaluation of Safety Procedures Checklist. If any discrepancies or violations are noted, a TL61 will be completed and the deficiency or violation will be corrected immediately. A follow-up inspection must be conducted within seven business days from the initial time of inspection.

On a quarterly basis, the District Nuclear Technicians (RSO) will exchange all badges in their respective district. If any discrepancies or violations are noted, a TL61 will be completed and the deficiency or violation will be corrected immediately. A follow-up inspection must be conducted within seven business days from the initial time of inspection.

Failure to correct the discrepancy or violation will result in the removal of the gauge, an informal hearing conducted with the party who assumed the responsibility for the safe keeping of the gauge (signed the TL-122) and may result in disciplinary actions against the party under the Standards of Conduct Act. Violations revealed through a USNRC inspection may result in heavy

fines or revocation of the Department's Radioactive Materials License and depending on the severity of the violation, could result in dismissal of the responsible party.

The Evaluation of Safety Procedures checklist, (TL-61) is to be completed every six months for each gauge and distributed as follows; Central Office Materials Division, Attention: Radiation Safety Officer and District Materials Engineer.

Sec. 105.04 Nuclear Moisture-Density Gauges – Operating and Emergency Precautions

It is intended for the gauges to be used on as many projects as possible if the projects are located within a reasonable distance of each other. It will be the discretion of the District Materials Engineer to determine if more gauges are needed to fulfill the needs of the projects. This provides a more productive use of each gauge. There will be occasions, which due to supply and demand will limit the amount of gauges throughout the state. Therefore, it will not be possible for every project to have a gauge assigned to it. If this applies, make arrangements with your District Materials Engineer to use a gauge from a Residency or project nearest you.

The Radiation Safety Officer in the Central Office Materials Division should be notified in writing (TL-122) of the projects on which each gauge is to be used or assigned too. The United States Nuclear Regulatory Commission incorporated into its regulations the United States Department of Transportation's regulations contained in 49 CFR 170-189. These regulations now comprise 10 CFR 71.

These guidelines apply to the Department each time a gauge is transported on public streets and highways. This is regardless of the nuclear gauge user / transporter. The rules of CFR 10 and CFR 49 apply anytime a nuclear gauge is transported by a motor vehicle. Before transporting, make sure that the nuclear gauge is properly secured in the vehicle and locked to prevent unauthorized entry. Also, the shipping papers ("Bill of Lading") must be within reach of the operator. Inspect the Packaging (carrying case) for defective parts or defaced labels and always wear your Thermoluminescent Dosimeter (TLD) badge, because the operator is held responsible at all times to assure that all of the regulations are followed. If the gauge is to be left unattended in the vehicle during normal work hours at any time make sure the gauge is secured, and the keys are not left in the vehicle to minimize the possibility of theft. Unless approved by the Materials Division no nuclear gauge will ever be left any where other than its assigned storage unit. It is mandatory that the gauge be returned and secured to its assigned storage area when not in use.

Storage of the nuclear gauge(s) must be provided away from the immediate workstation. The storage area will conform to the Road & Bridge Standards, section 605.01 or by the approval from the Materials Division. Gauges stored where personnel are working should be at least 10 feet from the work area or provide adequate shielding to minimize the radiation levels to 2 mr/hr or less.

All personnel responsible for, or using nuclear gauges shall become knowledgeable and disciplined in avoiding incidents that may cause damage or theft of the nuclear gauge.

A damaged gauge can cause serious injury to personnel depending upon the exposure time and the distance from the radioactive materials. In case of accident, theft, or fire involving a nuclear gauge promptly refer to the Department's Radiation Safety Training Manual, which contains an itemized emergency procedure to be followed in each respective case.

In the event of such an emergency, all requests for public information related thereto should be directed to the Office of Community and Public Relations. This will relieve Residency personnel of this burden and will establish statewide uniformity in information release.

Simultaneously, the information to be released will be assembled and forwarded to the Community and Public Relations Manager by our Virginia Department of Transportation Radiation Safety Officer, from the initial reports of the incidents received. It is important that the initial details of the incident be telephoned or emailed to the District or State Radiation Safety Officer as soon as they are identified, so the information released is concise and comprehensible to the public.

SECTION 106 GENERAL INFORMATION

Sec. 106.01 Information Required

(a) Estimated Quantities of Materials

Immediately upon the award of every construction contract, the District Materials Engineer, or his authorized representative, is to prepare a list of the estimated quantities of materials required for the execution of the contract and promptly make the necessary distribution of copies, as outlined in Sec. 800. The list shall show the estimated quantity of each item together with the specification designation.

When a loose-leaf type materials notebook will be used by the Project Inspector, the District Materials Engineer is to furnish the list of estimated quantities on loose-leaf sheets suitable for direct placement in the notebook.

See Sec. 208 for details of handling Special Projects.

(b) Source of Materials

Contractors are to be advised by letter and/or verbally at the pre-construction conference that the Source of Materials form is to be submitted to the District Materials Engineer, Project Inspector, Project Engineer or other designee as a digital file. The Contractor should be provided with a computer diskette containing the digital file template(s) of the Scheduling & Contract Division's Form C-25 for use in listing the information to be submitted.

The District Materials Engineer's office will, upon receipt of the contractor's submittal, immediately determine the method(s) of acceptance for routinely encountered materials and/or material sources. The District Materials Engineer will forward portions of the submittal containing non-routine items to the Materials Division's Central Office for processing. The Central Office of the Materials Division will handle the processing of non-routine items, including the notification and assignment of testing responsibilities to other internal divisions. The Central Office of the Materials Division will advise the District Materials Engineer of any noted deficiency regarding the information on the non-routine items. If, for any reason, the contractor's submittal is incomplete, incorrect or needs clarification, the Central Office of the Materials Division will return the Contractor's submittal to the District Materials Engineer for resolution of the problem. Upon resolution of such deficiency, the submittal will be returned to the Central Office of the Materials Division for processing. After processing, the submittal will be returned to the District Materials Engineer for final distribution.

The District Materials Engineer will send copies of the processed Source of Materials to the Project Inspector, Project Engineer, the Contractor, and any other District Materials Engineer who has been assigned testing/monitoring responsibilities. The Project Inspector should not

approve the use of material until verification is received that the Source of Material has been processed or otherwise receives a processed copy.

PROCESSING MATERIAL CERTIFICATION SUBMITTALS

After a Source of Materials submittal has been processed and indicates that a Manufacturer's Certification is required for material acceptance, the Project Inspector and Contractor are responsible for securing such documents and sending them to the District Materials Engineer for the Department's review and approval. The District Materials Engineer is to review the certification documents for obvious omissions (such as lack of quantities or project numbers, etc.) and then submit four (4) copies of the documents to the Central Office of the Materials Division for technical review and processing. If the Contractor's submittal is incomplete, incorrect or is in need of clarification, the Central Office will return the documents to the District Materials Engineer for resolution of the problem. Upon correction of the deficiencies, the District Materials Engineer will return the submittal to the Central Office. The Central Office will then have the documents reviewed by the appropriate technical staff and, if found to be satisfactory, assign a certification number (i.e. a CT-xxxx number)to the submittal packages. The Central Office of the Materials Division will make the distribution of the copies of the approved Certification to the Project Inspector, Contractor and the District Materials Engineer submitting the documents.

(c) Job-Mix Formula and Mix Design

Mix designs are to be submitted in time to be approved prior to anticipated use. Hydraulic cement concrete mix designs and component materials sources shall be submitted on Form TL-27, while those for asphalt concrete and central - mixed aggregate shall be submitted on Form TL-127. A separate job-mix formula or mix design must be submitted for each plant production facility providing material for Highway use and for each such mix produced by each plant. In addition, for hydraulic cement concrete, a separate design must be submitted for each class of concrete and for each slump desired for each class to be used. The design is intended to be valid for as long as the material sources and quantities do not change and as long as the material continues to perform satisfactorily. Small changes in quantities for moisture adjustment, etc., are not to be considered sufficient reason for a new mix design. A separate design is to be submitted for any significant change made.

Each approved design is to be assigned a design number which should be referenced on the Contractor's source of materials form. The assigned number should include the District number, serial number, and the year of approval.

In the case of hydraulic cement concrete and asphalt cement used in asphalt concrete, Contractors should be advised that Form TL-27 and TL-127 respectively are considered as substitutes for the source of materials letters required in Paragraph (b) above. It will not be necessary that a separate source of materials letter, in addition to these forms, be submitted, listing the sources of the asphalt cement and the individual components of hydraulic cement concrete.

(d) Shipping Instructions To Producers

When orders for the shipment of highway material are placed directly with the Producer, it is necessary that the Producer be given the route, project, and the county to which the material is to be charged.

Sec. 106.02 Sampling of Materials in the Field

The District Materials Engineer is to maintain supervision over the taking of samples in the field for submission to the Laboratory for testing. (See Sec. 201.) No person should take samples unless properly instructed.

When instructing subordinates, the Engineer should emphasize the importance (1) of submitting representative samples from all shipments of materials not bearing evidence of having been tested and approved, (2) of submitting such samples promptly, and (3) of submitting along with the sample all required information pertaining thereto correctly and in legible form.

Sec. 106.03 Compliance with Specifications

It is necessary that materials Suppliers and Contractors be advised that they are expected to produce materials meeting approximate mean values, where maximum and minimum limits are given in the specifications. This applies especially to such materials as asphalt concrete, aggregate base, and subbase material, etc. It is recognized that most materials contain some fluctuation and variation, and tolerances have been provided to allow for this.

Where materials Suppliers consistently produce borderline material directed toward the outer limits of the specification tolerances or falling outside of specification tolerances, they should be advised of the necessity of producing a uniform specification material. This may require that the Producer initiate adjustments in materials production, based upon quality control determinations to minimize the frequency and severity of deviation from the center of the specification or job-mix range.

A refusal on the part of the Contractor to comply with a request to initiate adjustments in materials production or to revise the design to meet specification requirements, will be justification for the Department to suspend its approval of the plant as an approved source, until such time as the requested corrections in production have been made or a new job-mix has been approved. It should be pointed out to the Producers and Contractors that compliance with specifications will eliminate, to a great extent, failing test results and will reduce the necessity for price adjustments.

107 SCALE PROGRAM

Truck and hopper scales used in weighing material for Department work are to be certified and sealed, as outlined in the Road and Bridge Specifications. Batch test weights are also included in this policy. The District Administrator and District Materials Engineer, in whose area the plant is located, will be responsible for initiating these instructions.

Sec. 107.01 Certification of Batch Test Weights

The 10 fifty-pound (225 kilogram) batch test weights are to be calibrated and certified, as outlined in the Road and Bridge Specifications.

Test weights having drilled or formed holes, other than the adjustment cavity on the sidewall, are not acceptable. The likelihood of dirt, cement, asphalt, or other foreign material accumulating in the holes makes this type of test weight unsatisfactory for plant use.

Test weights, in order to be certified, must conform to Weights and Measures' requirements for a Class C test weight. Such weights must have a sealing cavity for calibration, and the cavity must be of such design that its opening can be readily capped and sealed. Additional information is

available upon request from Weights and Measures concerning sources where acceptable test weights may be purchased.

Sec. 107.02 Certification of Scales

(a) The following instructions will cover all situations requiring the sealing of scales, but will not be limited necessarily to the following situations:

(1) When plants and scales are initially set up.

(2) When scales are moved from one location to another.

(3) When seals on scales expire at the end of 6 months.

(4) When scales are suspected or determined to be out of tolerance or adjustment at anytime during operation, regardless of when previously sealed.

(b) The following procedures should be used in obtaining compliance with scale certification requirements:

(1) The Scale Owner, whether it be the Material Producer, Supplier or Contractor, shall determine the date on which the scale will be needed. Should inspection and sealing of the scales be required under any of the four above noted conditions, then the Scale Owner shall contact the regional office of Weights and Measures, Department of Agriculture and Consumer Services, at least ten days prior to the anticipated date of officially using the scales. In addition, if and when scales require any service under any of the four above noted conditions, the Scale Owner will also be responsible for obtaining an approved scale repairman or manufacturer's representative to perform any required service on the scales prior to the date of inspection by Weights and Measures, as outlined below. In any case, scales shall be checked by a scale service agency at least semi-annually, and this should include testing the scale with known test weights, as outlined in Item 5 below.

(2) The scale manufacturer's representative or repairman will have a definite Scale Technician Service and Test Report, that has been established or approved by Weights and Measures, to follow when checking the scales.

(3) One copy each of the Scale Technician Service and Test Report, when properly filled out by the scale repairman, shall be given to the scale Owner, District Materials Engineer, and Weights and Measures. The scale Owner will be responsible to see that the District Materials Engineer receives the copy so designated. This must be signed by the person inspecting the scale, and must indicate whether the scale is satisfactory or unsatisfactory for use, in accordance with the requirements of National Institute of Standards and Technology, Handbook 44, corrected through the current year. The scale Owner's copy of the report is to be posted in the scale house or in the office close to the scales, where it is readily available to anyone desiring to refer to it.

(4) Scales shall not be placed in, or returned to, service by a scale repairman, unless it meets all requirements of National Institute of Standards and Technology, Handbook 44, outlined in Item 3 above (also see Item 6). When scales have been "tagged" rejected or condemned by Weights and Measures, only they can remove the tag and return scales to service.

(5) Scale repairmen must have and use at least 500 lbs. (225 kg) of test weights on hopper type scales and at least 20,000 lbs. (9050 kg) of test weights on motor truck scales. Strain load tests shall be conducted when scale capacity exceeds the test weights used.

It is the intent that the 20,000 lbs. (9050 kg) of test weights used on motor truck scales be transported on a single truck, whose vehicle weight combined with the test weights will approach the range of loads being weighed on the scales.

The sections of the vehicle scales should be checked at increments up to and including 20,000 lbs. (9050 kg) using the test weights. Next, the sections should be checked with the test weight transport vehicle and a load of 20,000 lbs. (9050 kg) of test weights. In the event the combined weight of transport vehicle and test weights is less than 44,000 lbs. (19,950 kg), an empty or partially loaded truck which weighs approximately the same as the combined weight of the transport vehicle and test weights is to be weighed and test weights added to the scale platform to bring the total load to 44,000 lbs. (19,950 kg) or greater.

Weigh monitors should review scale service reports and/or occasionally observe a 6 month service check to assure themselves that 20,000 lbs. (9050 kg) of test weights are being used, that sections of the scale are being checked both with 20,000 lbs. (9050 kg) of test weights and with the combined weight of the transport vehicle and 20,000 lbs. (9050 kg) of test weights, and that a gross platform load of 44,000 lbs. (19,950 kg) or greater is being used.

(6) If Weight and Measures can test and approve the scale prior to date of use or date of seal expiration, ignore the remainder of Items 6 and 7, and proceed to Item 8 for further instructions.

If Weights and Measures cannot test and approve the scales prior to the date of seal expiration, or the anticipated date of use of new or newly relocated scales, the District Materials Engineer may issue temporary approval for use of scales. In making this approval, the District Materials Engineer is to determine that a conscientious effort was made by the scale owner to obtain the services of Weights and Measures prior to expiration of seal or date of use.

For temporary scale approval to be issued, the following actions are to occur:

a. The scale owner is to request by letter to the District Materials Engineer for an extension of time.

b. The scale owner is to provide a signed Scale Technician Service and Test Report, indicating that the scale meets the requirements of Handbook 44. The inspection should have been performed within the last thirty (30) days.

c. The District Materials Engineer is to notify the scale owner in writing of temporary approval.

The scale must be inspected and sealed by Weights and Measures as soon as possible if the scale owner expects to continue using the scale.

(7) If the report indicates that the scale does not meet the requirements of Handbook 44, the District Materials Engineer will immediately notify the scale Owner by phone, and confirm by letter, that the scale has been taken out of service for Department work, until it has been properly repaired by the appropriate repairman and approved by Weights and Measures.

(8) Weights and Measures will give appropriate advance notice as to when they will check the scales. It is suggested that the scale Owner have the scale repairman who serviced the scale present at the specified time, to correct any minor deficiency immediately while the Weights and Measures official is present. The Weights and Measures official will not wait until major repairs are made, or if minor repairs require an unreasonable length of time to

accomplish. The scale Owner will be responsible to see that the District Materials Engineer receives a copy of the Scale Inspection Report issued by Weights and Measures.

(9) If the inspection by Weights and Measures reveals that the scales are not functioning properly and if the necessary repairs or adjustments cannot be made by the scale repairman immediately, the District Materials Engineer will then notify the scale Owner by phone, and confirm by letter, that the scales have been taken out of service for State work until properly repaired and then sealed by Weights and Measures. No additional temporary approval will be given.

(10) Copies of all correspondence and reports outlined in Items 6, 7, 8, and 9 above will be sent to, or retained by, the State Materials Engineer, Administrative Services Officer, District Administrator and District Materials Engineer. In cases which involve a contractual dispute, copies of all correspondence and reports noted in Items 6, 7, 8 and 9 will also be sent to the Construction Engineer and Resident Engineer involved.

Sec. 107.03 Deleted

Sec. 107.04 General Scale Requirements and Check Points

The following is some helpful information regarding scale accuracy:

(a) Single Draft Weighing

The length of a vehicle scale must be adequate to accommodate in its entirety the longest vehicle or vehicle combination. The total weight of a vehicle or combination is not to be determined by adding together the results obtained by separately and not simultaneously weighing each end of such vehicle or individual elements of such couple combination. The weight of a couple combination may be determined by uncoupling the various elements (tractor, trailer), weighing each unit separately as a single draft, and adding together the results.

(b) Scale Platform

The scale platform should be of adequate strength. The surface should be reasonably smooth and in surface alignment with the pit coping. The opening between platform and coping should be approximately 25 mm, to prevent lodging of foreign matter between platform and pit wall. The surface should be kept in good repair, and cleaned when necessary or at least once a day.

(c) Scale Pit

The pit wall, floors, and piers for lever stands should be of good quality concrete. It is imperative that there be periodic cleaning, good pit drainage, and ventilation. Adequate room should be provided so that the inspector or repairman can move about the pit freely. The pit should be deep enough, and access thereto should be such, as to facilitate inspection, cleaning, and maintenance of scale parts.

(d) Elements in Pit

All stands should be set on concrete and securely anchored. All elements should be in alignment and level if so designed, with adequate clearance around live parts. Pivots and bearings of the main and extension levers should be well packed with grease to protect the parts against corrosion. All elements, levers, and structural steel should be painted periodically to minimize rust hazards. The weighbridge should be of steel, adequately strong to prevent deflection.

(e) Indicating Elements

Indicating elements should be rigidly mounted upon firm foundation, independent of the scale house, weighing room, or other similar structure. Adequate clearance must be provided around the indicating elements and the connections. On beam type truck scales, all connections not above the beam stand must be enclosed. Keep weighbeam bars and face plates in clean and legible condition. Keep automatic elements clean and the dash pot properly filled with oil. See that the poises on the notched weighbeams have pawls that fit the weighbeam notches, and that the spring-loaded weighbeam poises are strong enough to seat the pawl properly in the weighbeam notches. See that the poises on the weighbeam, tare bar, frictional bar, and tare bar on automatic - indicating scales, when they are pushed as far as they will slide in the zero direction of the weighbeam, give a correct (zero) indication. Any loose material used for the purpose of balancing the weighbeam must be secured so that it cannot shift or be knocked off, thus affecting the balance condition of the scale. See that the weighbeam is centered in the fulcrum stand bearing and pivots in loops, and that, when weighbeam is correctly balanced in center of trig loop, the amount equal to two (2) minimum graduations on the weighbeam will hold the weighbeam to the top or bottom of the trig loop. See that the operations of application and removal of unit weights are positive, and that the value of the unit weights in place at any time is clearly indicated on the reading face of the dial.

(f) Correct Balance

Keep the beam scale-weighbeam tip in center of trig loop with all poises at zero. The automatic scale indicator on dial face must be pointing to zero, and the printer dial reading must indicate zero. Zero balance should be checked after each five (5) drafts, or more often if conditions tend to change the weight of the platform.

(g) General

A scale is not to be used for weighing a load totaling more than the capacity indicated on the scale by the manufacturer. Weighmasters must have an unobstructed view of the entire scale platform. The indicating elements, the lever system, and the underside of the load receiving elements of a scale shall be adequately protected against wind and weather effects.

(h) Temporary Test on Truck Scales

Acquire correct (zero) balance, place loaded truck on scale platform with rear wheels about .25 m from the end of platform, obtain correct amount, and record. Place truck on other end of platform in same manner and repeat the operation. Both ends should be within 2 lbs. (1 kg) per 1000 lbs. (500kg) of gross load of truck.

(i) Temporary Test on Hopper Scales

Acquire correct (zero) balance, making sure that all live parts of the scale are free from a binding condition. Distribute test weights on hopper and record amount indicated. This amount should be within 2 of the minimum graduations on the indicating element. On hopper scales, consideration should be given to suitability of position of the indicating elements, freedom from vibrations, disturbing air currents, and easy accessibility to facilitate daily cleaning of live elements of the scale.

(j) Documentation of Scale Checks

When District Materials personnel make a routine accuracy check of plant truck and hopper scales, the scale inspection should be documented showing the date of the inspection and whether

or not the scales appeared to be accurate. If any inaccuracies in scales are evident, the particular details of the discrepancy should also be noted. The procedure for checking a set of truck scales begins with a quick visual inspection of the scales to see that material is not jammed into the areas around the platform or below the scales which would affect the weights. The readout unit is to be inspected for a proper "zero" and, if digital, that the readout unit has a seal on it to prevent tampering with adjustments inside.

Sec. 107.05 Recordkeeping and Scale Certification Data System

The Department has agreed to the following initiatives which are intended to assist Weights and Measures in providing their service to suppliers of VDOT. In addition, this system is a means of standardizing recordkeeping for the Bonded Weigh Programs as a whole.

VDOT employees are not to contact representatives of Weights and Measures to request the sealing of scale. Requests must originate with a producer billing procedure. However, the District Weigh Monitors are encouraged to develop a good working relationship with the regional VDACS inspectors responsible for his/her respective producer scales.

The Central Office of Weights and Measures should be contacted by our producers to request the scheduling of the scale sealing operation.

Each District is to furnish Weights and Measures inspectors in their region a list of in-state producers and the status of the service/sealing activity for the scales involved. The "Agriculture Report" (See Appendix No. I-B is an extracted report from the "Certified Scale Status Report" data base for the District. This report is to be issued at least once each 6 months and quarterly if practicable. The District Weigh Monitors are to remind aggregate and hot mix suppliers of upcoming expiration of Weights and Measures certification. This courtesy reminder is to be given at least 4 to 6 weeks prior to the expiration date.

The total "Certified Scale Status Report" (See Appendix No. I-C) data base should be routinely updated each month and submitted to the State Materials Engineer on a quarterly basis.

SECTION 108 BONDED WEIGHPERSON PROGRAM

The Department requires Contractors and Producers who furnish material by weight to have a certified and bonded Weighperson perform the weighing operations for such material furnished for State work. The District Materials Engineer is responsible for monitoring the Bonded Weighperson program.

Sec. 108.01 Surety Bond

The Weighperson's Surety Bond is to be issued in the name of the Producer's firm, rather than in the name(s) of the Weighperson(s). The Weighperson or other company representative is to see that the original copy of the surety bond is submitted to the District Materials Engineer, in whose District the shipping source is located, who will, following review and approval, make appropriate distribution, including a copy for the District Weigh Monitor. In the case where the plant is shipping material across District boundaries, one copy each is to be sent to any other District Materials Engineer(s) into whose District(s) the material is being shipped. The Weighperson will be expected to post his/her copy of the Bond at the work area for ready reference of the District Weigh Monitor. (See Sec. 800 for a sample Surety Bond.)

Sec. 108.02 Certification of Weighperson

The District Materials Engineer or representative will meet with each proposed Weighperson to verify that the person is bonded, and understands and has the ability to follow VDOT specifications. The evaluation will be made on the basis of an oral evaluation utilizing the standardized questionnaire provided by the Central Materials Office:

(a) The Weighperson Evaluation Form

This form is not intended to be used as a numerically graded examination of the candidate. The District Weigh Monitors will provide each candidate Weighperson Training Manual from which the questions are based. The candidates are to be allotted an appropriate amount of time to review and study this information prior to being orally quizzed on the material. If a candidate has problems recalling the answers to the questions, the District Monitor should prompt or coach the candidate to a reasonable extent. However, if in the opinion of the monitor, the candidate needs more study time to better prepare for the evaluation, an additional amount of time may be allowed before retesting. Upon successful completion of the Weighperson Evaluation, the District Monitor is to recommend the issuing of a Weighperson Certificate by the District Materials Engineer. The signed Weighperson Evaluation Form will serve as a record and documentation of qualifications. The weighperson will be evaluated at the weighing facility at where he/she is employed and evaluated in accordance with the requirement for the equipment he/she will be utilizing in the weighing process.

The form is to be kept on file at the District Office for the period the person is actively engaged in the weighing operation.

We suggest the number of employees certified at an individual facility be limited to one full time weighperson with one or two persons serving as backup. The number may vary according to conditions that may occur in high production facilities. However, the number of active weighpersons should be kept in line with the production demands of a facility.

By limiting the number of employees we certify, we can exercise more control over the Bonded Weigh Program and the amount of monitoring required at each facility. In addition, it is not good practice to encourage the producer to have numerous people certified who are not actively participating in the weighing operation. This effort would tend to protect the producer as well as the State by encouraging reliance on persons who are more thoroughly versed and familiar with the weighing process.

For each certification issued by the District, there is to be a corresponding Weighperson Evaluation Form on file in the District Office for the individual. A new Weighperson Evaluation Form is to be processed and signed prior to the expiration of a current certification. This certification will be valid for a period of 3 years.

The Department reserves the right to withdraw the certification of a Weighperson at any time during the term of the certificate if the performance of duties are not deemed satisfactory.

Upon satisfactorily demonstrating that ability, the Weighperson will be certified by the District Materials Engineer. A copy of the Weighperson's certification also shall be posted for ready reference of the District Weigh Monitor. (See Sec. 800 for details of a sample Certification.) This certification will remain in effect for the 3 year term of certification, as long as the Weighperson is actively participating in the weighing operation (does not exceed a period of 120 days without actually performing the weighing operation). The Producer is to notify the District Materials Engineer in the event a weighperson is used who has not performed the weighing operation within 120 days.

Following are listed particular items that will be reviewed by the District Materials Engineer or representative during the course of the examination of the Weighperson:

(1) Demonstrates ability to properly perform weighing operations.

(2) Demonstrates ability to prepare and post tare weights.

(3) Demonstrates and/or explains the system the Producer uses to identify lots and keep up with the running totals.

(4) Demonstrates an understanding of the Daily Summary Sheet, Form TL-102A. Explains how the sheets will be delivered to the projects, orders, etc.

(5) Has posted a copy of Surety Bond.

(6) Knows what to do in case of a malfunction.

(7) Knows who to contact in the VDOT in case of problems.

(8) Is knowledgeable of how spot-checks will be made. (The proposed District Weigh Monitor spot-checking system should be explained to the Weighperson.)

Sec. 108.03 General Guidelines for Weighperson

Following are general guidelines for Weighpersons:

(1) See that trucks are properly tared and in compliance with specifications and instructions.

(2) Maintain and post tare sheet. (See Sections 108.04 and 109.)

(3) Assure that all weights are true and correct.

(4) Post Certification, Surety Bond, and a current Virginia Weights and Measures Scale Inspection Report. (See Sections 108.01, 108.02 and 107.02.)

(5) Maintain accumulative tonnage for lots and (IAS) Q.A. sampling.

(6) Submit Daily Summary Sheet, Form TL-102A, in accordance with specification requirements. (See Sections 108.04 and 800.)

(7) Provide information to the Department's (IAS) Q.A. Monitor and assist with spot-checks.

(8) Comply with all pertinent specifications and instructions.

Sec. 108.04 Duties of Certified (Bonded) Weighperson

Following are specific duties of Weighpersons performing weighing operations for material shipped to State work:

(a) Scale Operation

(1) Must be zeroed and platform clean before weekly taring, and must remain so while material is hauled to State projects or purchase orders.

(2) Must have current seal of Virginia Department of Agriculture and Consumer Services, Bureau of Weights and Measures. Must also have been tested by a scale service representative within the last 6 months. (See Section 107.02.)

(3) In case of scale malfunction, notify the District Materials Engineer or his/her representative.

(4) Weighperson is to assist VDOT Weigh Monitor in performing checks of truck and hopper scales.

(b) Truck Identification

(1) Check truck for identification number and legal gross and legal net weight limits. This data must be permanently stenciled or painted on the truck body and must be clearly visible and legible. (See also Section 109.)

(2) Virginia Department of Transportation trucks are to use E.D. number as truck I.D.

(c) Taring Trucks

(1) The truck tare weight to be used in the weighing operation will be the weight of the empty truck with full tank(s) of fuel and the driver seated in the truck. The tare weight is to be recorded to the nearest 20 pounds (10 kg).

(2) For routine taring, the Weighperson shall tare each truck at least once a week during periods of materials shipment to State work. At the option of the Contractor, a new tare may be determined for each load. In that case, the requirement for full tank(s) of fuel will be waived and the most recent tare is to be used to determine net pay quantity.

For trucks tared weekly, this tare is to be compared to the tare determined by the Department at the time the legal weight was determined. (See Section 109.) The larger of the 2 tare weights is to be used to determine net pay quantity, until the truck is rechecked by the Department's representative. Generally, a recheck should be requested when the difference exceeds 200 pounds (100 kg).

(3) Following the initial round of legal load determinations of vehicles by the Department representative, as outlined in Section 109 ,and at the option of the Producer/Contractor, further legal load determinations may be made by the Bonded Weighperson. In this case, the trucks may be used for up to 30 days, or until the VDOT Monitor rechecks the truck(s), whichever occurs first.

If the Bonded Weighperson makes the legal load determination, he/she is to determine that fuel tanks are full and the truck bed clean, measure extreme axle spacing, and determine legal gross and net weights.

(d) Tare Worksheet

(1) Tare sheet (Form TL-104) is to be completed weekly and is to include company name, plant location, date trucks tared, I.D. of each truck used, maximum legal gross weight/maximum legal net weight, Department determined tare weight, actual tare and tare weight used,, and signature of Weighperson taring trucks.

(2) Posted at location visible to Weighperson, or displayed on computer monitor during weighing operations..

(3) Worksheet is to be neat and legible, and must be kept on file for a period of 12 months. If the worksheet is computer generated, a paper copy must be printed not later than the end of each week.

(e) Weigh Ticket Information

(1) Weigh ticket is to accompany each load and is to include plant (company) name and location, date, truck identification, load number, size and type of material, project, schedule, or purchase order number, and lot number and/or aggregate certification when applicable.

(2) For truck scales, tickets must include 2 printed weights, one of which must be the NET WEIGHT. For hopper scales, tickets must include the printed NET WEIGHT.

(3) Must include LEGAL GROSS WEIGHT for trucks hauling material weighed on vehicle scales, or LEGAL NET WEIGHT for trucks hauling material weighed on hopper scales. These weights may be printed or in script form.

(4) Weighperson's signature (either handwritten signature, handwritten initials, or computer printout of name or initials) certifies that the truck has been properly weighed and that weights are correct. Tickets are not to be presigned.

(5) Tickets are to be checked for proper weights and completeness of information.

(f) Daily Summary Sheet (Form TL-102A)

(1) Weighperson is to furnish a Daily Summary Sheet (Form TL-102A) to each order and/or contract. One TL-102A will be issued for each lot of production shipped to the state projects and purchase orders. (Multiple lots may be reported on the TL-102A if directed by the District Materials Engineer. Summary sheet is to contain all pertinent information, and is to be delivered to the person taking up the weigh tickets at the project or work area by the end of the next working day, or according to agreement with the Department representative receiving the material. (See additional details in Section 108.05.) (See Sec. 800 for sample Form TL-102A.)

Sec. 108.05 Reconciling Weigh Documents

The person receiving the Daily Summary Sheet (Form TL-102A) is to reconcile it against the weigh tickets received at destination. If there are differences, they should be corrected or explained. The Producer or Contractor is to be notified of any differences between the quantities shown on the Daily Summary and the weigh tickets.

The Daily Summary Sheet is to be turned in at the completion of a project to the District Location & Design Section, who will check it against the final estimate and the weigh tickets. Upon completing the final estimate, the Daily Summary Sheet is to be retained in the project files, in accordance with published retention schedules. For H - Orders, the Daily Summary Sheets will be sent to the State Materials Engineer after final checks by the Resident Engineer's office.

Sec. 108.06 Department Monitoring

The Department will monitor the certified Weighpersons and plants furnishing materials by weight on a continuing basis, with a minimum of one inspection per calendar quarter per plant, or more often if needed. Where significant discrepancies are found, follow-up inspections and reports should be made within 30 days of the original inspection. Where found, discrepancies are to be corrected immediately by the Weighperson, before allowing hauling to resume. The "Weighing Inspection Report" (Appendix No. I-A) shall be retained in the District for documentation with a copy going to the State Materials Engineer. In addition, the Weigh Monitor shall instruct the Producer to notify him/her when a less experienced temporary Weighperson is going to be used. This will give the Monitor an opportunity to visit the plant and review weighing and documentation procedures with the temporary Weighperson prior to weighing operations.

The District Materials Engineer, through the District Weigh Monitor, will be responsible for conducting the weigh inspections. Following are listed items that are to be inspected or reviewed during the Weigh Monitor's visits:

(1) Check scales, printer system, and weighing operations.

(2) Check Weighpersons for knowledge of applicable specifications.

(3) Check delivery tickets for proper weights and information, including tare weights and lot numbers.

(4) Spot check trucks and compare actual tare weight with tare weight shown on posted tare sheet. (Weighpersons will stop and weigh trucks at the time the Monitor makes such requests.)

(5) Check hauling equipment for compliance with specifications. Monitor will randomly select loaded trucks to be reweighed to verify weights shown on delivery ticket. Weighperson is to cooperate fully in reweighing any truck the Monitor selects.

(6) Check to see if gross weight limitations are being adhered to.

(7) Check on posted certifications, tare weights, and bonds. (Dates, frequency, etc.)

(8) Check scale seals. (Proper dates.)

(9) Check to see if Summary Sheets (Form TL-102A) are being handled properly. (See also Section 108.04 and 108.05.)

(10) Keep a diary or file on each Supplier, to include dates checked, copy of bond, corrections required, copy of certification, and instructions given, etc.

SECTION 109 LEGAL LOAD DETERMINATION

Sec. 109.01 Administration

Sec. 109 of the Road and Bridge Specifications provide for the uniform administration of legal load limits on Department contracts. To facilitate this administration, the Specifications require the following:

(a) Trucks hauling material for purchase by the Department on a tonnage basis shall display legal gross and legal net weights.

(b) Weigh tickets accompanying the load shall include the legal gross weight for trucks hauling material weighed on vehicle scales, and the legal net weight for trucks hauling material weighed on hopper scales. In addition, weigh tickets shall show the date, truck number, load number, lot number, plant name, size and type of material, and project, schedule, or purchase order number. See also Section 108.04(e).)

(c) Payment shall be denied for material delivered in excess of the legal load limit established for each truck.

Sec. 109.02 Responsibilities

The District Materials Engineers, through the Weigh Monitors, are responsible for determining/verifying the legal load limits for the various trucks being used to haul the Department's materials. This will involve scheduling with Contractors/Producers when the

Weigh Monitors can visit the plant, measure axle spacing (rounded to the next higher foot), determine the tare for the trucks, and issue the legal weights on Form TL-101A, Legal Load Determination, as outlined in Sec. 800. The legal load determination will expire on the nearest April 1st to 4 years from the determination date to permit scheduling of determinations during the winter months. Where a consistent tare is reflected in the scalehouse documentation, only a visual inspection will be required on the truck and a new TL-101A issued. However, when no consistent record can be documented, or there is a permanent alteration made to the truck, change of ownership, or there is a continuous discrepancy in the weekly tare weight of 200 pounds (100 kg) or greater, a complete physical legal load determination will be performed.

Tare weight for trucks shall be determined by the Weighperson, as outlined in Section 108.04(c).

Following are guidelines for use by District Materials personnel (District Weigh Monitors) in the determination of legal load limits:

(a) Schedule legal load determinations through Producer/Contractor Suppliers who own the scales over which Department material is to be weighed. Request that a representative of the Supplier be present during the measurements to address concerns that may arise on the part of operators.

(b) The specification requires the legal load limits to be "permanently stenciled" on each side of the truck. Stenciling or better will be accepted; that is, professional hand lettering which is as legible as or more legible than stenciling. The weight limits are to be placed on the side of the bed or trailer unless otherwise approved. The numbers shall be a minimum of 2 inches (50 mm) in height. If the positioning of the scale house preclude the truck I.D. number from being visible to the weighperson from the scale house, it may be necessary to also have the I.D. number placed in additional locations on the truck or some other method employed to identify the truck from the scale house (camera, speaker phone, mirror, etc.).

(c) A dated list of trucks checked by each District is to be developed on a microcomputer or word processor and published by the District Materials Section to aid in tracking and updating the pertinent information. The headings or format for the report are to be as follows (reading from left to right): report number, name of truck owner, truck/trailer ID number(s), number of axles, date checked, vehicle modifications if any, maximum legal gross weight, and maximum legal net weight.

(d) The legal load limits for each tractor/trailer combination are to be determined. Thus, the tractor ID number will have to be shown on the trailer along with the legal load limits for the tractor/trailer combination.

(e) The specification or special provision provides for the denial of payment for material delivered in excess of the legal load limit established for each truck. Residency personnel are to be responsible for comparing the actual with the legal weight and making the appropriate adjustment prior to payment of the estimate/invoice, etc.

Further, it is Department policy to not pay for material delivered on trucks for which legal load limits have not been determined by the Department, unless the use of such vehicles has been specifically directed by the Engineer.

(f) Producers/Contractors should be asked to give the District Materials Section at least 48 hours prior notice for requests that the Department schedule subsequent legal load determinations after the initial round of vehicle checks. Following the initial round of vehicle checks by the Department and at the option of the Producer/Contractor, legal load determinations may be made by the Bonded Weighperson; whereupon, the truck(s) may be

used for up to 30 days. (See also Section 108.04(c)(3).) Weight limits thus determined are to be verified or adjusted by the Department's representative as soon as practicable and the information published, as outlined in Section 109.02(c).

(g) State Owned Trucks. Two axle and three axle tandem dump trucks should be supplied to the districts with no load limit indicated at the time of delivery. After the District or Residency Shops make whatever modifications or additions needed for the trucks to conform to the needs of that section or residency (adding tool boxes, snow plow hitches, etc.), the District Materials Bonded Weigh Monitor should be notified of the need to certify these trucks if they are to be used in the hauling of materials that are purchased on a tonnage basis. The Bonded Weigh Monitor will perform a modified legal load determination on the trucks and notify the District or Residency Shop personnel of the load limits for the truck. The weighing of State trucks should be done at the nearest or most convenient scale facility out of which the truck may be hauling. The District or Residency Shop personnel will affix the proper load limits as indicated to the truck in accordance with instructions from the Equipment Engineer. State trucks shall carry the Equipment Identification Number (i.e. R12345) as a means of recognition and differentiation. The use of "1" on weigh tickets to designate state trucks will eliminate conflict and confusion with numbers assigned to private hauling vehicles.

For all two axle state trucks, except 4 X 4's, 31,000# (14,061 kg) shall be the maximum legal gross weight. For 4 X 4, 2 axel dump trucks, Class 894, the maximum legal load is 33,500# (15,192 kg). For the three axle trucks with an axle spacing of less than 19 feet (5.8 m), 49,500# (22,453 kg) shall be the maximum legal gross weight, while trucks having axle spacing of 19 feet (5.8 m) or more shall be limited to a maximum of 50,000# (22,680 kg). The legal load determination shall be performed to determine the legal net weight for the vehicle. The maximum legal tare weight is the difference between the above listed gross weights and the maximum legal tare weight.

(h) Preprinted forms, Forms TL-101A, will be used to record legal load determinations, as outlined in Sec. 800. A copy of the Legal Load Determination (TL-101A) report is to be kept with the truck at all times. It will be the truckers responsibility to furnish a copy of the report to all scale facilities at which the truck and its load are weighed.

(i) The Bonded Weighperson is to follow the procedure outlined in Section 108.04(c), for instructions on tare weights to be used to determine pay quantities.

(j) To reemphasize, it is very important to make sure that the fuel tanks are full and the operator is seated in the vehicle at the time the tare of the truck is determined. The operator should be requested to remove the tank cap such that the fuel level can be viewed. If the tank cannot visually be determined to be full, the operator should be asked to prove the level by an acceptable means, such as by stick reading.

(k) The truck identification number shall consist of a one digit district number (D)and a truck number varying from one to four digits (X) as illustrated below:

DX	-	i.e. 91, 92, 93
DXX	-	i.e. 901, 921, 943
DXXX	-	i.e. 9002, 9123, 9965
DXXXX	-	i.e. 90007, 91074,99075

SECTION 110 THE DISTRICT MATERIALS ENGINEER

The District Materials Engineer is a field representative of the Materials Division and represents the State Materials Engineer in matters pertaining to the sampling, inspection, field testing, and use of all construction and maintenance materials. The Materials Engineer will assist the

Division in the making of materials and performance surveys, and in any other materials assignment or duties outlined herein or by special request. He receives administrative supervision from the District Administrator and technical supervision from the State Materials Engineer.

SECTION 111 DUTIES OF MATERIALS TECHNICIAN SUPERVISORS AND TECHNICIANS

Materials Division technicians shall have the primary responsibility of carrying out any assignments related to materials sampling, testing, or inspection, or any functions related thereto, as may be directed by the Materials Engineer to whom they are assigned. Materials Division technicians will receive both administrative and technical guidance from the work unit to which they are assigned, either the Central or District Laboratory, as the case may be.

SECTION 112 OPERATIONS OF THE MATERIALS DIVISION

The operation of the Materials Division in the inspection and acceptance of materials generally takes three distinct administrative forms; that is, plant testing, laboratory testing, and visual or modified inspection, or a combination of these. Plant testing or inspection usually means that acceptance testing or inspection is conducted at the materials source, and may include such materials as asphalt concrete, pugmilled aggregates, or open graded aggregates. Plant inspection may also be coupled with additional laboratory testing and/or visual inspection before acceptance of materials is obtained, which would include such materials as pipe, asphalt materials, and again aggregates in certain situations. Each form of materials acceptance is covered in more detail below.

Sec. 112.01 Plant Testing and Inspection

Whenever it is economically advantageous, material for highway use may be inspected, sampled, and/or tested at the manufacturing plant or point of origin of shipment by the Materials Division, or its authorized representative. Shipments, in this case, will be sealed or otherwise marked to indicate that such inspection has been made. If facilities are available at the source, acceptance testing of the material may be performed at this point, or if unavailable or only partially available, the acceptance testing will be performed at another laboratory.

In any case, plant inspection is not infallible and any material, which on arrival at destination does not appear to meet the specification requirements, will be subject to retest or reevaluation, and acceptance or rejection will be based on the results of the retest or reevaluation. (See also Sec. 110.07.)

In addition, certain materials shipped by truck and paid for on a tonnage basis, such as asphalt concrete, dense graded aggregates (aggregate base, subbase, and select material), and other aggregates (fine aggregate, open graded coarse aggregate, and crusher run aggregate), used on construction projects and maintenance schedules, will normally have acceptance weight documented at the source. This does not apply to aggregate used in asphalt and hydraulic cement concretes or masonry. When any of the applicable above noted materials are shipped from the Producer to the job site, the bonded Weighperson will record the pertinent data of material shipped on Form TL-102A. It will also be necessary that these source documented materials be accompanied to the delivery point by a weigh ticket furnished by the Producer, as outlined in Sect. 106.04(e) and 800.

Sec. 112.02 Laboratory Testing

Laboratory testing includes any testing performed in a District or Central Office Laboratory of the Materials Division. This testing may be performed for various purposes; such as, acceptance testing, Q.A. monitor testing, routine quality testing, check testing, independent assurance testing, and other purposes, including release of shipments of approved materials by source Inspectors.

Sec. 112.03 Visual Inspection

Visual inspection at the job site is to be conducted on all materials, regardless of whether previously approved or not, as outlined in Sec. 110. However, the term "visual inspection" also has another meaning in regard to materials acceptance. There are certain materials that, under certain circumstances, may be accepted at the job site on the basis of modified inspection, requiring only visual inspection or visual inspection supplemented with Manufacturers' certifications and/or occasional check testing by the Department. Normally, these cases will not require Department material test or inspection reports for acceptance.

These circumstances include (1) very small quantities of uninspected or untested material received on a project, not in sufficient quantity to permit a test sample to be taken without causing a shortage of the material; (2) certain materials outlined in Sec. 207 received in amounts not exceeding those amounts specified for the individual materials, such as brick and paint, among others; (3) certain materials, such as admixtures, aluminum alloys, hydraulic cement, steel guardrail, lime, and others, that may be accepted on the basis of Manufacturer's or Producer's certifications, mill analyses, annual published lists, or other certifying documents; (4) certain materials outlined in Section 207 when used in Special Projects, as listed in Sec. 208; and (5) certain materials that require no sampling, testing or certification for approval, such as, monomolecular film and copper water pipe, among others. The materials which may be accepted on this basis are covered in more detail in the individual material sampling and testing instructions in Sec. 200, and in a condensed list in Sec. 207.

SECTION 113 MATERIALS

Sec. 113.01 General

Materials received in the field, whether for contract work, force account work, or maintenance, are to be covered by a test report, inspection report, certification, or visual inspection. If such reports are not received (within 3 calendar weeks) after the material has arrived on the job, or if the information given on the report does not agree with the description and quantity of material received, the Materials Division must be notified without further delay through the District Materials Engineer. The Inspector or Foreman who has been assigned to receive the materials is to carefully examine all materials as they are received. Any visible evidence that the material is not suitable for use and in accordance with specification requirements must be reported to the District Materials Engineer immediately, and the use of the material delayed pending instructions.

In addition, material delivered from the Producer to the job site will be accompanied by delivery tickets, invoices, or weigh tickets. Material received without this documentation should not be used until such evidence is produced. One copy of this ticket must be obtained by the Inspector for materials delivered to the project and, in the case of tonnage materials, signed by the Inspector. The Inspector should hold this ticket until completion of the project, and until he has checked to determine that the specific material and quantity has actually been delivered to the project, and until he has received the above noted materials test or inspection report to cover the

shipment. The delivery ticket should be kept in a safe place on the job until completion of the project, at which time they should be forwarded to the project files.

In the case of materials shipped to the job site by truck and paid for on a tonnage basis, the documentation will be accomplished by retaining the weigh tickets and Forms TL-102A, as outlined in Sec. 800. See also Sec. 106.04(e). In the case of automated asphalt plants, the printed ticket will be used in a similar manner to a regular weigh ticket.

All producers of materials which are produced under a Quality Control - Quality Assurance Plan will have written documentation of their Quality Control plan. The documentation will include, among other things, the quality control functions, frequencies, and state the personnel designated the responsibility for the various Quality Control functions, and the designated personnel with authority to sign the certifications stating that the materials are produced in accordance with the Quality Control plans. Test reports and inspection documents supporting the conformance to specifications must be signed by the QC personnel performing the testing, or inspection.

It is imperative that extremely close communication be maintained between the plant and the project, in order that entries on project and plant records will be in agreement.

a) Quality Assurance for Acceptance by Materials Suppliers of Misc. Materials - Under this program suppliers will have approved Quality Assurance Plans, which define how they intend to maintain all shipping records, inventory records, test report numbers, and other documents needed to assure that materials shipped have the proper acceptance documentation. The Plan will define the responsible parties, and describe when, where, and how the records are maintained. The Quality Assurance Plan will be reviewed for content by the Central Office, Structures Section, and comments furnished to the District Materials Engineer. The District Materials Engineer is responsible for the acceptance or rejection of the Quality Assurance Plan. The District Materials Engineer shall be responsible for the supplier's adherence to the approved Quality Assurance Plan and has the authority to remove non-compliant suppliers from the list. The District Materials Engineer will notify the Structures Section of approvals/removals. The approved suppliers will be added to a list maintained in the Manual of Instructions.

Each item on the shipping ticket that has been tested will show the test report number, lot number, size, etc. Each item on the shipping ticket that has been approved by certification or mill analysis, will show the Certification Number, for the blanket approved items or brands. Items on the approved lists shall show the List Number and be identified by brand/product name and number. Visual inspection items, and other similarly accepted materials shall have a statement of the acceptability and method. All materials for which the supplier has documentation shall be stamped, tagged or stenciled QA.

Items that have not been approved will not be allowed to be shipped on the same invoice as materials covered on the QA plan. The shipping ticket shall carry a statement that the material has not been approved for use on VDOT projects, and is being shipped at the Contractor's risk,. This material will not be acceptable for payment and the items should not be stamped QA. When approval of these items is received, written notification is to be furnished to the Contractor, Inspector, and monitoring District Materials Engineer. Shipping tickets for approved materials will carry the statement "We certify that the above material has been approved for use on VDOT projects as per QA Program" or similar.

For materials on the shipping ticket the documentation to be shown in the Materials Notebook shall be the shipping ticket number, along with the stated Certification Number, Test Number, List Number, or Visual Inspection for each item on the shipping ticket.

Materials supplied shall be subject to the same testing, certification, or other acceptance procedures as is currently required. The VDOT industrial inspector will continue to sample the materials, as needed, and will periodically audit the shipments to assure the invoices have the correct information, and that the materials shipped have been properly documented as materials acceptable for use on VDOT projects. One additional copy of the shipping document shall be provided to the monitoring District Materials Engineer for distribution to the receiving District Materials Engineer for project documentation. If the supplier does not provide proper documentation in a timely manner they will be removed from the Quality Assurance Program.

The Industrial Inspector will continue to provide inspections and verify warehouse stock is properly tested, stamped, stored, etc.

Sec. 113.02 Material Arriving Bearing Inspection Seals

Production control is not infallible, and does not replace the necessity of field inspection. In all cases, the material is to receive visual inspection immediately upon arrival in the field. When material arrives on the job bearing inspection seals or other identifying marks, indicating that the material has been plant inspected, such materials may be used on arrival at destination without delay, unless visibly defective or notification prohibiting its use has been received. See Sec. 109.03 for details of material certifications.

Inspection seals or other identifying marks that are attached to or received with a shipment of material, when it is received and accepted by the Inspector, must be removed from the railroad cars or trucks and the numbers recorded in the materials notebook with all other details concerning the material. See also Sec. 110.01 above and Sec. 800 for details concerning weigh tickets.

Sec. 113.03 Material Arriving Without Evidence of Inspection

Material that arrives at destination bearing no evidence that it has been inspected must not be used until approved. The District Materials Engineer is to be notified.

Sec. 113.04 Handling of Materials on Job

Tested and approved materials that are to be used immediately, or are stored improperly, upon arrival on the job should be given another careful visual examination before they are used. If any deterioration in condition, quality, or grading is evident, the District Materials Engineer is to be notified immediately. Coarse aggregates tend to segregate in transit and special care should be taken in handling. Conical stockpiles of aggregates are objectionable and should be avoided if at all possible. Should conical stockpiles prove to be detrimental to uniformity in mixes of hydraulic cement concrete or asphalt concrete, immediate steps should be taken to correct this situation.

Hydraulic cement must be stored to insure that it is kept dry. Any moistening of cement prior to its use, creating a lumpy and partially hydrated material, is to be cause for rejection of the cement.

Reinforcing steel stored on the job should never be placed in direct contact with the ground, but should be supported on timbers, etc., to keep it clean and dry. The location for storage should be one that will prevent the possibility of the steel becoming physically damaged in any way.

Any liquid or powder chemical materials stored on the job, such as concrete admixtures, curing compounds, paints, etc., should remain sealed in their original containers free from moisture or contamination, and at the manufacturer's recommended storage temperature, until used on the job.

Every effort should be made to properly handle and store materials on the job.

Sec. 113.05 Proper Sampling in the Field

See Sec. 201 for instructions on proper sampling in the field.

Sec. 113.06 Information to be Submitted with Samples

Detailed and complete information concerning each sample is absolutely necessary. The proper notification cards must be used, as outlined in Sec. 800, when submitting samples for test. The individual submitting the sample must sign the card in the space provided. Failure to fill out the sample notification cards completely will result in delay in making and reporting the tests, as the testing will not be done until necessary information has been obtained.

Sec. 113.07 Procedure to be Followed when Material is Rejected

Materials, that do not conform to the specifications or requirements of the Virginia Department of Transportation, are not to be used, unless authorized by the Engineer. The Materials Division will notify the Field Engineer of the failure of materials to pass the required tests. Whenever a Materials Technician inspects materials prior to shipment, and a seal is attached to the shipping vehicle, the load of material may be accepted on the job, after close visual examination for defects. Each Materials Technician is assigned a number of plants, and it is not possible to be at one plant at all times. It is, therefore, necessary that a visual inspection be made of each load of material as it arrives on the job. If Material is thought to be unsatisfactory after visual inspection at the job site, or there is indication that the material received does not conform to specifications, then the following procedure should be used:

(a) The Inspector should refuse the use of the material. It should be understood that the rejection of a material on a visual basis may not always be completely valid. For example, the Inspector may feel that a specification aggregate is either out of the grading or is contaminated; however, these factors cannot be determined without the benefit of a retest.

In other instances, however, visual inspection may completely suffice for the rejection of the material, if the material is unquestionably altered. An example of this would be a broken section of concrete pipe.

(b) The Inspector should then advise the Resident Engineer of the situation and the District Materials Engineer should be immediately notified.

(c) The District Materials Engineer will then investigate and provide a retest if necessary, such a retest being directed toward proper evaluation of the true character of the material (for example, the first case outlined in Paragraph (a) above). The Inspector will then properly record the situation by recording the developments in his diary.

It is most important that the Inspector at the job site promptly notify a supervisor and request confirmation of this judgment, in cases where material has been rejected on the basis of visual inspection. In almost every instance, in which an important component of the contracted work is rejected, the Contractor can be expected to question the basis for the rejection. Questioning of the rejection decision should not be taken as an attack upon the competence of the individual who rendered initial judgment. The Contractor's interest in the decision is motivated by the fact that it takes time to reorder material and replace workmanship. Before reordering replacement material, the contractor wants to be reasonably certain that our decision to "reject" is justified.

No one is expected to be an expert in the evaluation of the many materials which are used, even on an average highway project; therefore, it behooves the individual, whether they are serving in an Inspector or Engineer capacity at the project level, to call upon the appropriate "specialist" in the Department to render a decision of confirmation or who is otherwise able to offer a satisfactory explanation for the condition(s) which prompted the initial decision to reject the material.

Individuals cannot afford the luxury of acting solely on their own judgment in the rejection of materials and/or workmanship involving large sums of money and labor. The authority we have been given to "reject" is tempered with responsibility to fully evaluate that which is in question. Further, since time is important to both parties of the contract, we have the added responsibility to be prompt in seeking confirmation of our judgment.

The above procedure naturally does not apply to materials or workmanship which are obviously improper, defective, or not as specified. Examples include: incorrect size bars or location of bends in reinforcing steel, broken pipe, or unapproved substitutions involving the type of material specified. Neither does it apply to the rejection of "perishable" items; such as, hydraulic cement concrete which fails under test to conform to the specified requirements and which also fails under retest.

When material, purchased by the Contractor for contract work, has been found to be unsatisfactory for use, the Materials Division will inform the Resident Engineer of such, in order that he may notify the Contractor. Whenever it does become necessary to reject material or workmanship, field personnel should not become involved in suggesting or directing what course of action the Contractor should or must follow. Sec. 105.13 of the Road and Bridge Specifications says in part, "Unacceptable work shall be remedied or removed immediately and replaced in an acceptable manner at the Contractor's expense." Hence, there are at least two courses of action open to the Contractor (and perhaps more). He should be given an opportunity to decide which course of action he wishes to propose to the Department for our consideration, without having been unduly influenced at the outset. It may be that the only practical solution is to remove the work, but the Department's representative must not be guilty of jumping to this conclusion. At the outset, simply advise the Contractor that the work is unacceptable and that, after he has had an opportunity to study possible alternatives, the Department is to be advised of what he proposes to do to correct the deficiency.

When material, furnished on State orders, has been found to be unsatisfactory for use, the Materials Division is to notify the Administrative Services Division. Immediately upon receipt of such notice from the Materials Division, the Administrative Services Division will notify the Manufacturer that the material received has been rejected, due to failure to conform to its specification requirements, and will be held for the Manufacturer's disposal. A copy of this notice from the Administrative Services Division to the Manufacturer must be sent to the District Administrator, and from this point on the matter shall be handled by the Administrative Services Division and the Materials Division. In case of emergency, a request for permission to use the material is to be submitted to the Administrative Services Officer or Maintenance Engineer. A copy of such request should be sent to the Administrative Services Division and to the Materials Division.

When any material is found by tests or inspection to be unsuitable for use after sampling, the discrepancy must be corrected by the Contractor or Producer before the material is resampled and retested. This applies to any material which by nature lends itself to being manipulated or corrected after having once been made, placed, or used, regardless of any lapse of time afterwards. Materials, such as aggregate bases and subbases, select materials, and aggregates to be used in hydraulic cement concrete, would be included in this policy, whereas items, such as

asphalt concrete or hardened hydraulic cement concrete, would not be included. This material, after correction, is to be resampled in the same location as that found to be in nonconformance with specifications on the original sample.

SECTION 114 REQUESTS FOR TESTS AND SERVICES

The purpose of this section is to set forth procedures for processing of requests for materials tests and services for other State agencies, local governmental units, other States, and Federal agencies. Although Sections 33.1-195, 5.1-49, and 5.1-50 of the Code of Virginia permit the Department to perform work for others, it is not intended that we solicit or otherwise promote such work.

Sec. 114.01 Performing Materials Tests and Services for Other State Agencies, Local Governmental Units, Other States, and Federal Agencies

Requests are to be made in writing and are to include a statement that the applicant is unable to contract the work within a reasonable time frame, or cannot find anyone else to perform the work. Requests are to be forwarded to the State Materials Engineer who will respond through the District Administrator.

In the event it is decided that the work can be undertaken without detriment to our schedule or increase in personnel, the District and/or Central Laboratory will prepare an estimated cost for the work and furnish same to the applicant. The appropriate payroll additive is to be included in the estimate for engineering services.

The applicant is to approve the estimate in writing and is to agree to pay the actual costs incurred. For work estimated to cost more than $5,000.00, a resolution from the governing body will be required.

Our written approval of work for others will include a statement that the work can be performed without detriment to our own materials program or necessitate an increase in personnel.

At the time test results and/or reports are transmitted to the applicant, a statement should be included asserting the understanding that the results and conclusions furnished are for the private use of the applicant. This will, hopefully, minimize our being drawn into controversy or having our work used to publicize some product.

The billing for work performed for other State agencies is handled by inter-agency transfer. All others are billed on an accounts receivable arrangement.

The Department does not have a legal or other basis for performing tests or services for Contractors, private businesses, or individuals, unless such need relates to its construction/maintenance program.

Sec. 114.02 Reciprocal Agreements where the Service is Performed Without Charge

According to our records, neighboring States have performed a considerable amount of plant inspection work for this Department without charge. Inasmuch as the services rendered to this Department currently equal and even exceed the services rendered to other States, it has been concluded that such routine inspection/testing services should be handled on an informal reciprocal agreement basis for those who wish to participate.

It should be understood that we are addressing work that can be performed as a part of our on-going inspection program with existing staff. The bulk of the work is prestress and precast inspection work performed by resident Plant Inspectors.

Sec. 114.03 Reciprocal Agreements for Services in which the Cost is Recovered/Paid

In the event there is a significant imbalance in the amount of work being performed by either State such that payment for the service(s) is deemed appropriate, the usual billing procedures are to be followed. Actual costs are to be documented using time sheets.

It should be understood that the Department reserves the unchallengeable right to refuse work requested, depending upon our availability at the time of the request. The State Materials Engineer's Office should be kept informed of requests and commitments involving work for other States.

Weighing Inspection Report

Date of Inspection_____

Producer_____

Location

Type Material Produced_____

			Yes	*No	N/A
I.	Surety Bond:				
	A.	Issued in Compliance with Specifications			
	B.	Properly Posted			
	C.	Is Date Current			
II.	WeighPerson:				
	Name_____				
(Scale Operator)					
	A.	This Person Certified			
	B.	Certification Current			
	C.	Copy of Certification Available			
III.	Weigh Tickets:				
	A.	Furnished for Each Load			
	B.	Contain Job Identifier			
	C.	Denote Size and/or Type of Material			
	D.	Contain Not Weight			
	E.	Contain Tare and/or Gross Weight			
	F.	Certification Signed			
	** G.	Contain Signature			

** Computer Printout of Name or Initials, Handwritten Signature. or Handwritten Initials is Acceptable.

IV. Plant Records:

		Yes	*No	N/A
A.	Tare Worksheets (Form TL - 101):			
1.	Tare Performed at Proper Frequency			
2.	Tare List Properly Posted			
3.	Date of Posted Tare List Current			
4.	Tare Weight Properly Computed			
5.	Tare On Ticket Agrees with posted Tare List (_____Tickets Checked)			
6.	Actual Tare of Trucks Agrees with posted Tare (_____Trucks Checked)			
7.	Tare Worksheets Properly Filed			
B.	Weighperson's Daily Summary Sheet (Form TL-102A):			
1.	Contains All Pertinent Information			
2.	Is Delivered in Accordance with Specifications			
3.	Is Noted As Q.A. Tested			
C.	Running Totals:			
1.	Are Running Totals Kept			
2.	Is Method Timely and Accurate			
3.	Does System Provide for Lot and Sample Identification			

V. Hauling Equipment:

A.	Tared			
B.	Legibly Identified			
C.	Contains Stenciled Fuel Capacity			
D.	Body Clean			

VI. Scales:

		Yes	*No	N/A
A.	Currently Sealed			
B.	Automatic Printer System Operative			
C.	Platform Clean			
D.	Printer Indicates “0” Under No-Load Condition			
E.	Temporary Scale Check Within Tolerance			

VII. Remarks:

*"No" Answers Must Be Explained To Include Action(s) Taken.

Signed_____
(Department Weigh Technician/Monitor)

Signed_____
(Weighperson)

VDACS Report 1

District:

District Weigh Monitor:

Date: 09/05/95

Plant	Special Codes	Plant I.D.	Scale Location	Weighperson	Fips Code	Wts. & Meas. Insp. date Certification
Acme Limestone	A!	864	Fort Spring, WV	Anthony Sims	N/A	06/08/89
Adams Construction (Lex.)	B!	801	Lexington	MD Sensabaugh	678	03/10/89
Blakemore (Grottoes)	B!	804	Grottoes	Robert Mays	165	09/13/89
Blueridge Stone	A!	846	Stuart Draft	Scott Riddle	015	05/23/89
B&S Construction (Har. North)	B!	827	Harrisonburg	Frank Wilkins	660	05/10/89
B&S Construction (H-burg)	B!	810	Harrisonburg	George Fawley	660	05/10/89
B&S Construction (Staunton)P	B!	812	Stuanton	Scott Decker	790	04/19/89
B&S Construction (Augusta)P	B!	815	Augusta	Lacy McCray	015	04/19/89
Chesstone	A!	805	Winchester	Mickey Kline	840	03/15/89
CS Mundy (Flatrock)	A!	806	Forestville	Rick Maiden	171	04/04/89
CS Mundy (S. Glen)	A!	807	Singers Glen	Bettie Estep	165	03/09/89
CW Barger & Son	A!	804	Lexington	Denise Cornwell	678	03/10/89
Frazier (H-Burg) Lg.	A!	810	Harrisonburg	Jeff Hoffsinger	660	06/07/89
Frazier (H-Burg) Sm.	A!	810	Harrisonburg	Jeff Hoffsinger	660	01/11/89
Frazier (North)(Inb.)	A!	862	Rockingham	John Engle	165	05/11/89
Frazier (North)(Outb.)	A!	862	Rockingham	John Engle	165	08/02/89
Genstar	A!	868	Winchester	Gail Maywait	840	11/08/89
Honhson Limestone	A!	875	Lewisburg, WV	Donna Johnson	N/A	05/30/89
LoneJack Limestone	A!	813	Glascow	N. Massie	165	03/10/89
Luck (Augusta) Lg.	A!	871	Augusta County	Tom Erskine	015	04/19/89
Luck (Augusta) Sm.	A!	871	Augusta County	Tom Erskine	015	04/19/89
Luck (Elkton)	A!	867	Elkton	Judy Kite	165	10/10//89
Riverton	A!	817	Riverton	Cathy Rusk	187	11/21/89
Shen. Asphalt (Ves.)	A!	874	Vesuvius	Shirley Clark	163	04/19/89
Shen. Asp. (For-ville)	B!	826	Forestville	Susan Stroot	171	05/31/89
Staunton Lime	A!	857	Staunton	Cherru Blakley	780	04/19/89
S.M. Perry Berryville	A!	820	Berryville	Janet Broy	035	08/03/88
S.M. Perry (Winch.)	B!	814	Winchester	Donald Milon	840	05/25/88
S.M. Perry (Win.) Sc. 1	A!	821	Winchester	CE Hahn, Jr.	840	06/01/89
S.M. Perry (Win.)Sc. 2	A!	821	Winchester	CE Hahn, Jr.	840	N/A
Valley Asp. (C-brook)P	B!	824	Clearvrook	Pat Franklin	069	04/20/89
Valley Asp. (River.)P	B!	816	Riverton	Sthephen Greene	187	08/02/89
West S&G	A!	859	Grottoes	Shelly Shifflett	165	03/09/89
W.S. Frey Scale 1	A!	828	Clearbrook	D. Hershburger	069	02/07/89
W.S. Frey Scale 2	A!	828	Clearbrook	D. Hershburger	069	04/20/89

Special Codes:

A - Aggregate.
B - Bituminous.
! - Active producer.
@ - Extension after expiration date.
# - Plant closed.
$ - Plant not furnishing VDOT.

Remarks:

District Materials Engineer

Copies:

A. J. Mergenmeier, S.M.E.
District Weigh Monitor
J.W. Diggs, Weights & Measures

VDACS Report 2

District:

District Weigh Monitor:

Date: 09/05/95

Plant	Special Codes	Plant I.D.	Scale Location	Weighperson	Fips Code	Wts. & Meas. Insp. date Certification	Date of Servicing	Service Company
Acme Limestone	A!	864	Fort Spring,W V	Anthony Sims	N/A	06/08/89	D. Of Labor	12/14/89
Adams Construction (Lex.)	B!	801	Lexington	MD Sensabaugh	678	03/10/89	Security	11/22/89
Blakemore (Grottoes)	B!	804	Grottoes	Robert Mays	165	09/13/89	Moore	09/14/89
Blueridge Stone	A!	846	Stuart Draft	Scott Riddle	015	05/23/89	Security	11/20/89
B&S Construction (Har. North)	B!	827	Harrisonburg	Frank Wilkins	660	05/10/89	Parham	12/05/89
B&S Construction (H-burg)	B!	810	Harrisonburg	George Fawley	660	05/10/89	Parham	10/05/89
B&S Construction (Staunton)P	B!	812	Stuanton	Scott Decker	790	04/19/89	Parham	10/12/89
B&S Construction (Augusta)P	B!	815	Augusta	Lacy McCray	015	04/19/89	Parham	10/11/89
Chesstone	A!	805	Winchester	Mickey Kline	840	03/15/89	Bay Scale	10/30/89
CS Mundy (Flatrock)	A!	806	Forestville	Rick Maiden	171	04/04/89	Rich. Scale	10/13/89
CS Mundy (S. Glen)	A!	807	Singers Glen	Bettie Estep	165	03/09/89	Moore	10/13/89
CW Barger & Son	A!	804	Lexington	Denise Cornwell	678	03/10/89	VA Scale	10/18/89
Frazier (H-Burg) Lg.	A!	810	Harrisonburg	Jeff Hoffsinger	660	06/07/89	Moore	10/10/89
Frazier (H-Burg) Sm.	A!	810	Harrisonburg	Jeff Hoffsinger	660	01/11/89	Moore	10/10/89
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Genstar	A!	868	Winchester	Gail Maywait	840	11/08/89	Apple Valley	11/05/89
Honhson Limestone	A!	875	Lewisburg, WV	Donna Johnson	N/A	05/30/89	Dept of Labor	11/08/89
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Luck (Augusta) Sm.	A!	871	Augusta County	Tom Erskine	015	04/19/89	Moore	12/15/89
Luck (Elkton)	A!	867	Elkton	Judy Kite	165	10/10//89	Rich. Scale	09/26/89
Riverton	A!	817	Riverton	Cathy Rusk	187	11/21/89	Bay Scale	12/05/89
Shen. Asphalt (Ves.)	A!	874	Vesuvius	Shirley Clark	163	04/19/89	Moore	10/24/89
Shen. Asp. (For-ville)	B!	826	Forestville	Susan Stroot	171	05/31/89	Moore	11/15/89
Staunton Lime	A!	857	Staunton	Cherru Blakley	780	04/19/89	Parham	11/20/89
S.M. Perry Berryville	A!	820	Berryville	Janet Broy	035	08/03/88	Moore	10/18/89
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Valley Asp. (C-brook)P	B!	824	Clearvrook	Pat Franklin	069	04/20/89	Moore	12/06/89
Valley Asp. (River.)P	B!	816	Riverton	Sthephen Greene	187	08/02/89	Moore	12/05/89
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W.S. Frey Scale 1	A!	828	Clearbrook	D. Hershburger	069	02/07/89	Moore	12/06/89
W.S. Frey Scale 2	A!	828	Clearbrook	D. Hershburger	069	04/20/89	Moore	12/06/89

Special Codes:

A - Aggregate.
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Remarks:

District Materials Engineer

Copies:

A. J. Mergenmeier, S.M.E.
District Weigh Monitor
J.W. Diggs, Weights & Measures

Nuclear Moisture - Density Gauges

District Administration

PART IA - GENERAL REQUIREMENTS

Operators/Operations of Nuclear Gauges

1. No individual shall operate a nuclear gauge until the individual has attended and passed a nuclear safety class.
Reference: Code of Federal Regulations (10 CFR, Part 20)

2. No individual shall operate a nuclear gauge until the individual has been issued a Thermoluminescent Dosimeter (TLD) to monitor the gauge operator's exposure levels. Only the individual to whom the TLD is assigned shall wear it.
Reference: Code of Federal Regulations (10 CFR, Part 20.1502)

3. No individual under 18 years of age will operate or be allowed to work in the vicinity of the Department's nuclear gauges.
Reference: Virginia Department of Transportation Manual of Instructions, section 105.02

4. For a declared pregnant woman, exposure doses shall not exceed 0.5 rem (0.005 sievert) during the entire pregnancy to avoid any damage to the embryo/fetus.
Reference: Virginia Department of Transportation Manual of Instructions, section 105.02, Code of Federal Regulations (10 CFR, Part 20, sec. 20.1208).

5. No operator shall use the gauge in such a manner to impose any undue exposure to themselves or the general public at any time.
Reference: Code of Federal Regulations (10 CFR, Part 20, sec. 20.1302),
Virginia Department of Transportation Manual of Instructions, sec. 105.02